MEC-COM-M042

Mini PCI-e 1-port parallel & 1-port RS-232 serial board with power input

---

User's Manual

Third Edition, February 2014

© 2014 Cervoz Co., Ltd. All rights reserved.
Reproduction without permission is prohibited

Mini PCI-e Serial Card

User's Manual

The software described in this manual is furnished under a license agreement and may be used only in accordance with the terms of that agreement.

Copyright Notice

© 2014 Cervoz Co., Ltd. All rights reserved. Reproduction without permission is prohibited.

Trademarks

Cervoz is a registered trademark of Cervoz Co., Ltd. All other trademarks or registered marks in this manual belong to their respective manufacturers.

Disclaimer

Information in this document is subject to change without notice and does not represent a commitment on the part of Cervoz.

Cervoz provides this document "as is," without warranty of any kind, either expressed or implied, including, but not limited to, its particular purpose. Cervoz reserves the right to make improvements and/or changes to this manual, or to the products and/or the programs described in this manual, at any time.

Information provided in this manual is intended to be accurate and reliable. However, Cervoz assumes no responsibility for its use, or for any infringements on the rights of third parties that may result from its use.

This product might include unintentional technical or typographical errors. Changes are periodically made to the information herein to correct such errors, and these changes are incorporated into new editions of the publication.

Technical Support Contact Information

http://www.cervoz.com/support/technical.php

Cervoz Co., Ltd.

Tel: +886-2-2911-9599

Fax: +886-2-2911-9566

Table of Contents

Chapter 1	**Introduction**	4
	Overviews	4
	Features	4
	Installation Flowchart	5
	Package Checklist	5
Chapter 2	**Hardware Installation**	6
Chapter 3	**Software Installation**	10
Appendix	**Pin Assignments**	20
	Board Side Pin Assignments	20
	Device Side Pin Assignments	21
	Technical Reference	22
	MEC-COM-M042 Specifications	22
	MEC-COM-M042 Dimensions	23
	Product Warranty Statement	24

1

Introduction

Overview

MEC-COM-M042 is a serial communication card for embedded PC. The card follows the Mini PCI-e standard which is complaint with PCI Express x 1 classification and small form factor (30.00 x 50.95 mm). This board fits in any host computer that has Mini PCI-e card slots.

Features

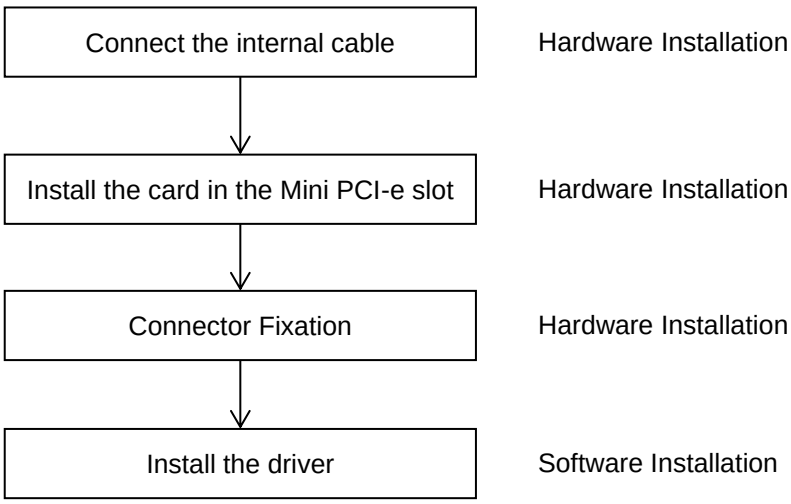
The PCI Express boards have the following outstanding features:

- Single-Lane (x1) PCI-Express with throughput up to 2.5Gbps
- Fully compliant with PCI-Express Base Specification Rev 1.1
- Top serial transmission performance up to 921.6 Kbps baud rate
- IEEE 1284-compliant SPP/EPP/ECP parallel port
- FIFO 128 Bytes, 15 KV ESD protections on board
- H/W, S/W automate flow control supported
- Serial port supports 5V or 12V power output by jumper setting

Installation Flowchart

Installation Flowchart of MEC-COM-M042

The following flowchart provides a brief summary of the procedure you should follow to install the Mini PCI-e card:



Package Checklist

The following items are included in the Mini PCI Express board Package:

- Mini PCI-e Card x 1
- Bracket x 1
- 20Pin Internal Cable (30cm) x 1
- 4Pin Internal Power Input Cable (30cm) x 1
- Quick Installation Guide (Printed) x 1
- Driver CD x 1

Note: *Notify your sales representative if any of the above items are missing or damaged.*

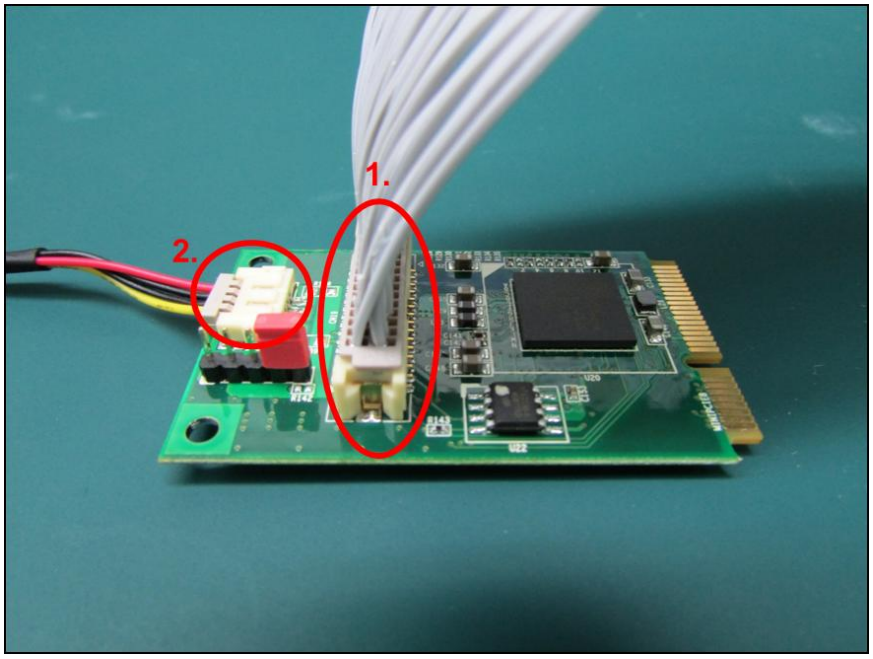
2

Hardware Installation

This chapter describes the PCI Express Series hardware installation procedure. Since the BIOS automatically assign the PCI Express board's IRQ number and I/O addresses, you must plug in the board before installing the driver.

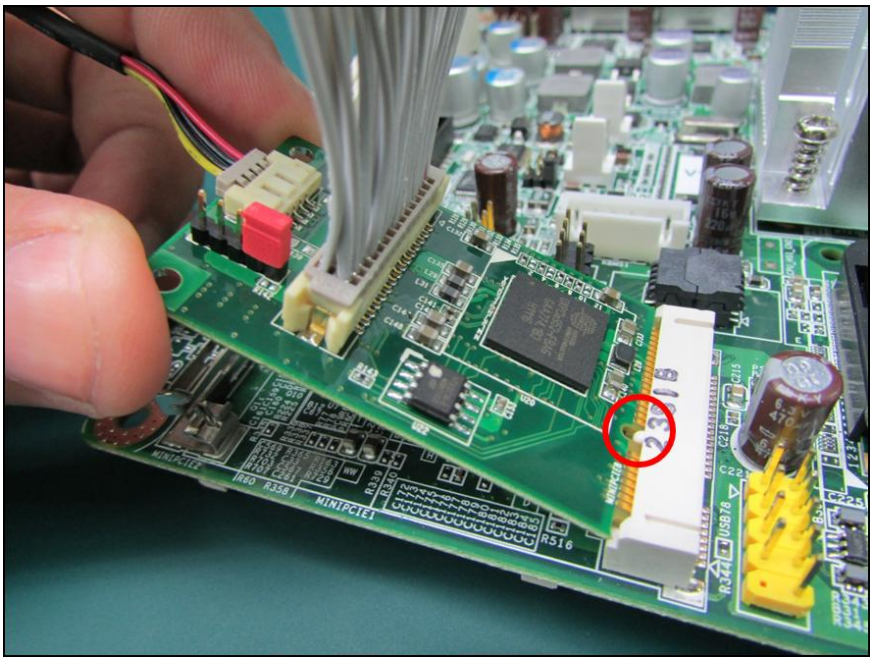
Step 1 Connect the internal cable to the card

1. Connect the internal cable to the card
2. Connect the power cable to the card



Note	The power cable will be needed if you wish to have the COM ports powered. (Please refer to the user manual appendix for the power select jumper setting)

Step 2 Install the card to the Mini PCI-e slot



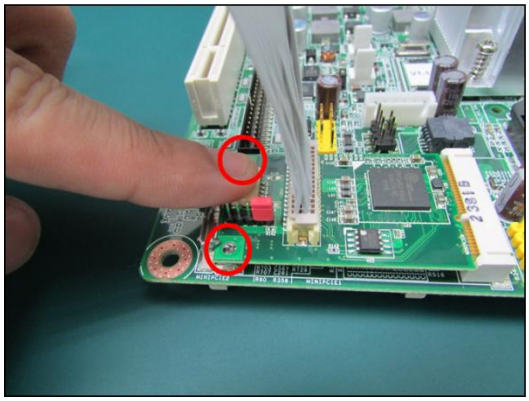
Make sure you install the card in the right position (fool-proof design)

Step 3 Fix the card on the motherboard (clip type or screw type)

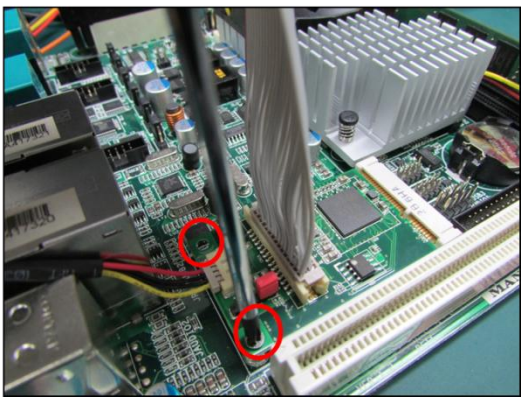
There are 2 options to fix the card. It depends on the design of the motherboard (clip or screw).

1. Clip type: make sure you press down the card and let the clips fix the card
2. Screw type: make sure you tighten up the screws to fix the card

Clip type

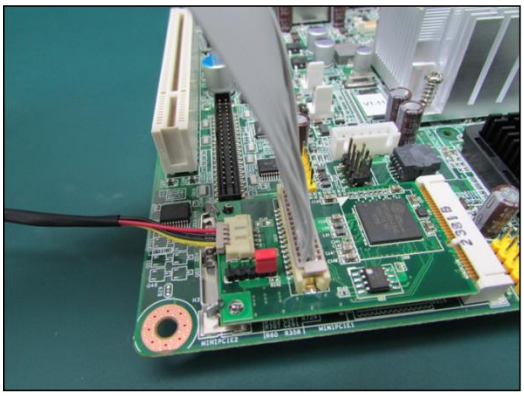


Screw type

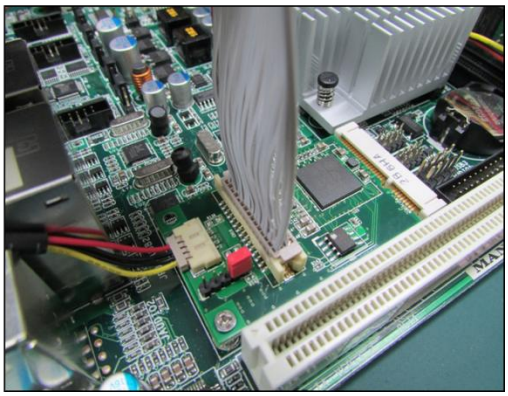


Step 4 Card installation completed

Clip type

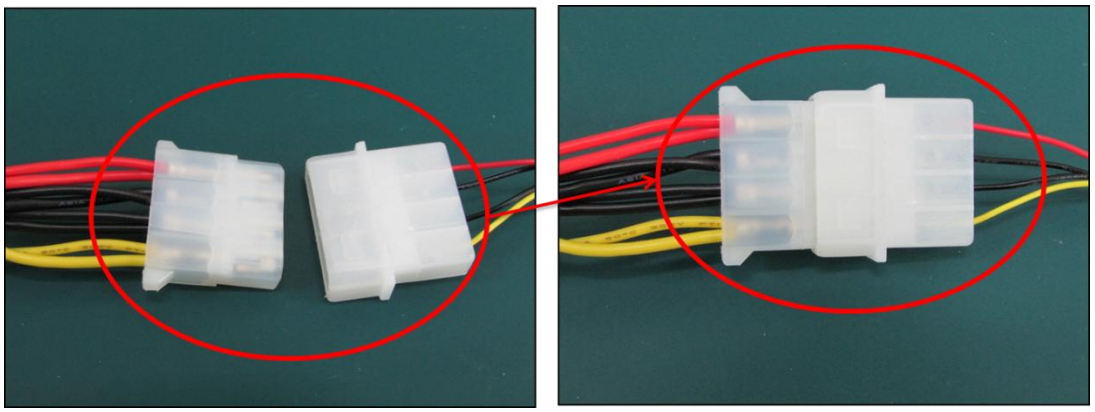


Screw type



Step 5 Connect the power cable to the 4PIN power connector

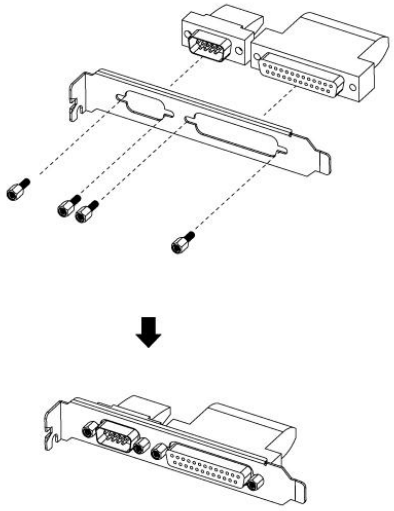
Connect the power cable to the big 4PIN power connector from the power supply



Connector Fixation

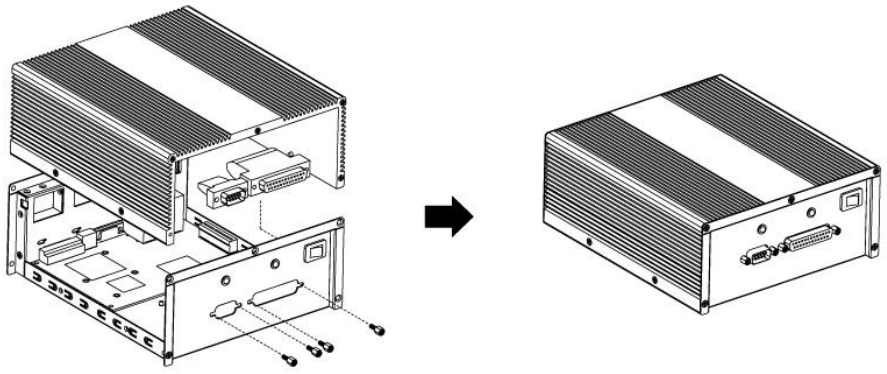
1. Standard PCI/PCIe Bracket

PCI / PCIe IO Bracket

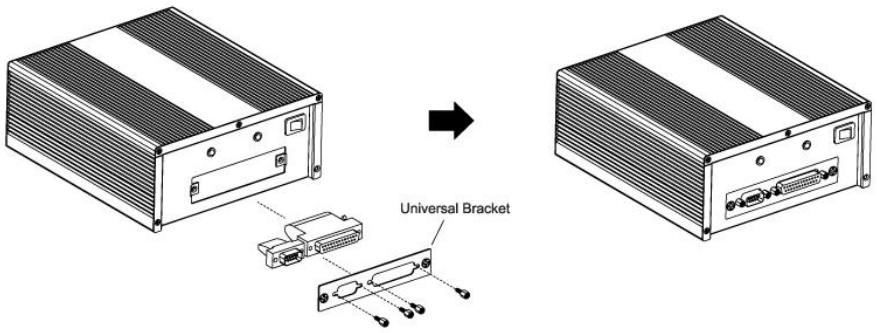


2. Customized Front / Rear Plate

Front / Rear I/O Plate



Universal Bracket



3

Software Installation

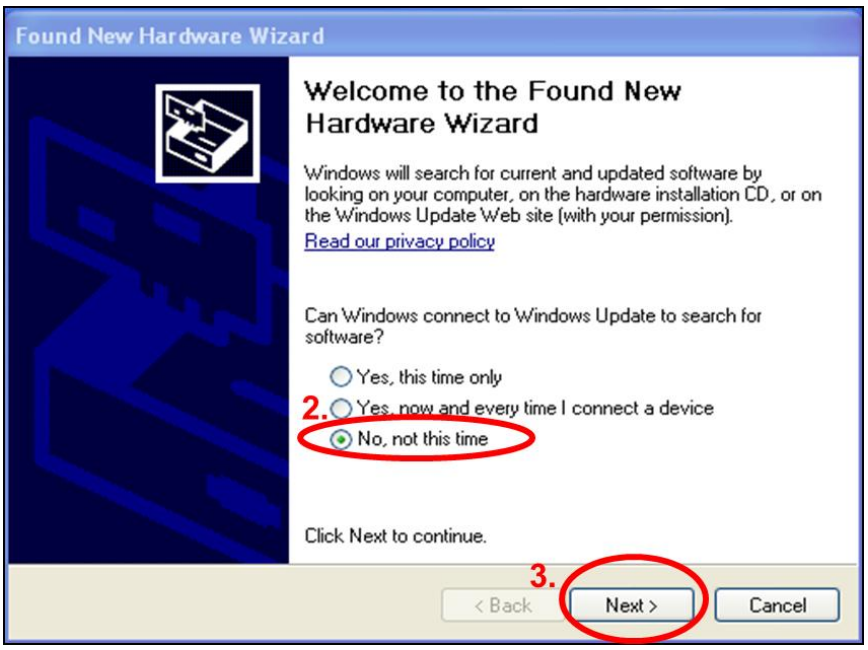
This chapter gives installation, configuration, and update/removal procedures for the driver for Win 2003, Win XP, Win Vista, and Win 7.

Step 1	**Turn on PC and start Windows**

Note	XP OS as example

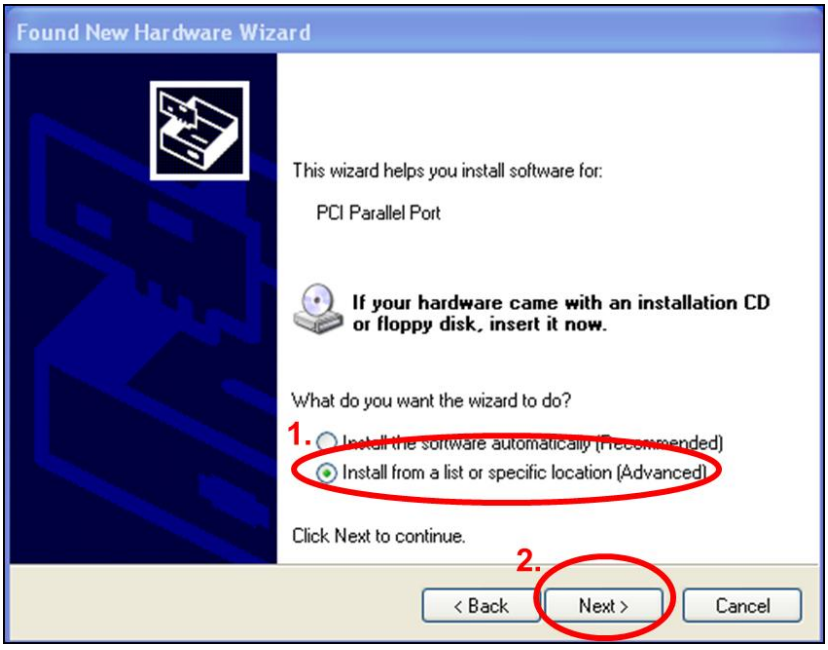
Step 2 Windows automatically detects the new device (Parallel Port)

1. If the card is installed properly, system would detect the new device and hardware wizard would start automatically.
2. Select “No, not this time”
3. Click “Next”


Found New Hardware Wizard
Welcome to the Found New Hardware Wizard
Windows will search for current and updated software by looking on your computer, on the hardware installation CD, or on the Windows Update Web site (with your permission).
Read our privacy policy
Can Windows connect to Windows Update to search for software?
Yes, this time only
Yes, now and every time I connect a device
No, not this time
2.
Click Next to continue.
3.
< Back
Next >
Cancel

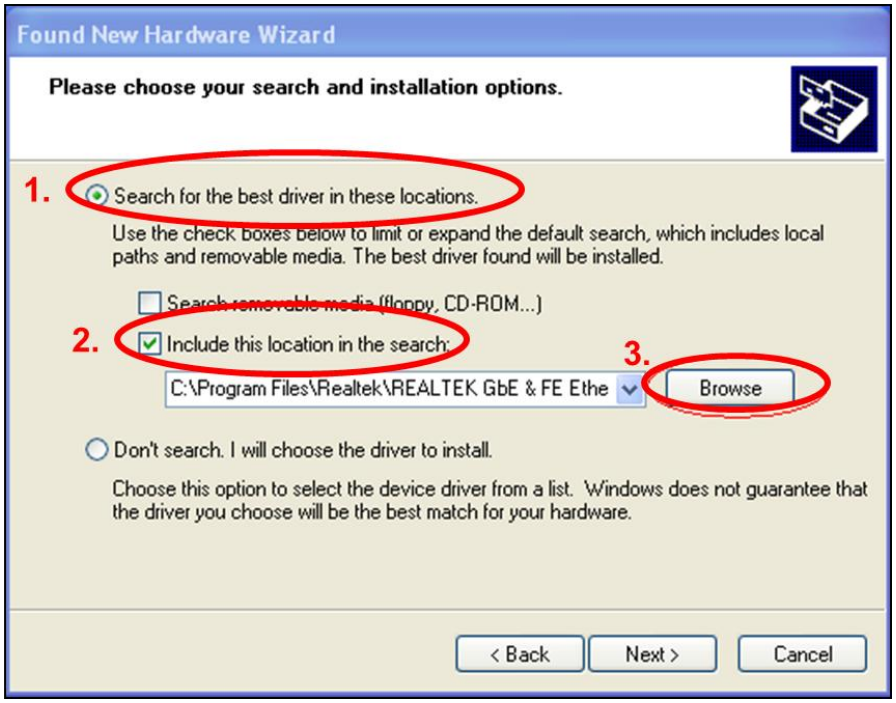
Step 3 Insert CD (Parallel Port)

1. Select “Install from a list or specific location (Advanced)”
2. Click “Next”


Found New Hardware Wizard
This wizard helps you install software for:
PCI Parallel Port
If your hardware came with an installation CD or floppy disk, insert it now.
What do you want the wizard to do?
1.
Install the software automatically (Recommended)
Install from a list or specific location (Advanced)
Click Next to continue.
2.
< Back
Next >
Cancel

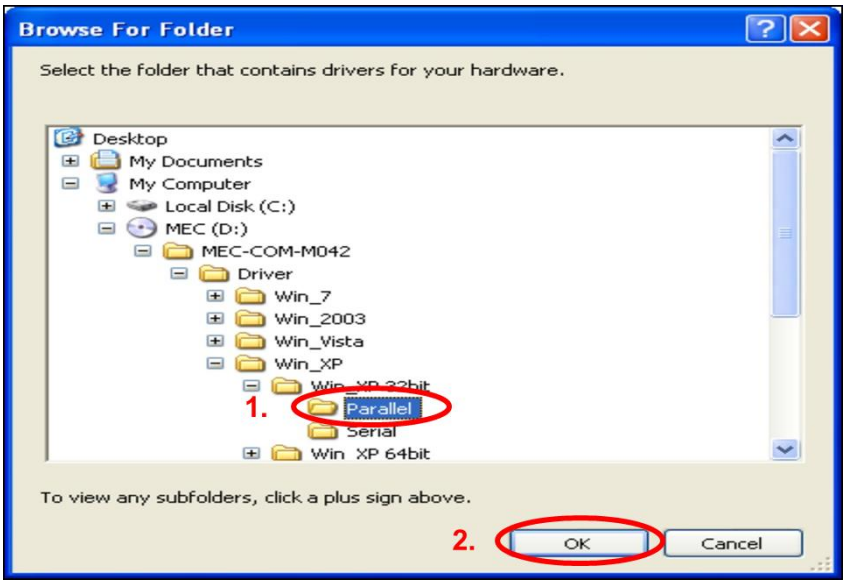
Step 4 Choose installation options (Parallel port)

1. Select “Search for the best driver in these locations.”
2. Select “Include this location in the search:”
3. Click “Browse”


Found New Hardware Wizard
Please choose your search and installation options.
1.
Search for the best driver in these locations.
Use the check boxes below to limit or expand the default search, which includes local paths and removable media. The best driver found will be installed.
Search removable media (floppy, CD-ROM...)
2.
Include this location in the search:
3.
C:\Program Files\Realtek\REALTEK GbE & FE Ethe
Browse
Don't search. I will choose the driver to install.
Choose this option to select the device driver from a list. Windows does not guarantee that the driver you choose will be the best match for your hardware.
< Back
Next >
Cancel

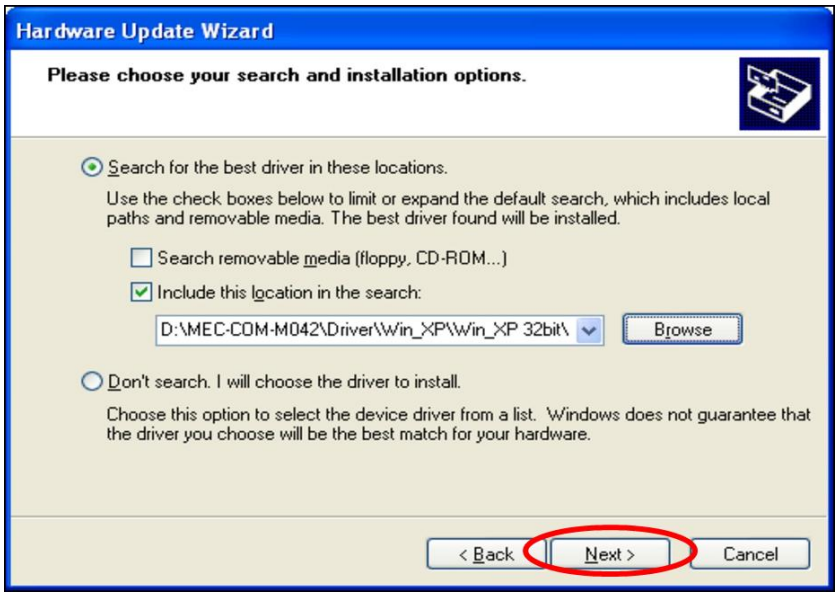
Step 5 Browse for folder (Ex.: XP) (Parallel Port)

1. Select the driver by route: *My Computer -> CD or DVD drive -> MEC-COM-M042 -> Driver -> Win_XP -> Win_XP 32bit -> Parallel*
2. Click “OK”



Step 6 Confirm driver folder (Parallel Port)

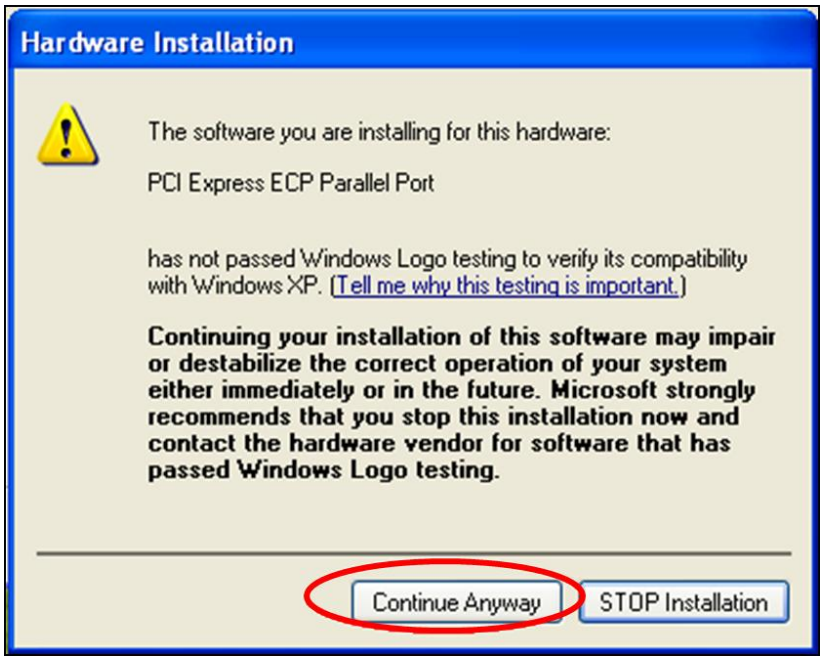
Click “Next”


Hardware Update Wizard
Please choose your search and installation options.
Search for the best driver in these locations.
Use the check boxes below to limit or expand the default search, which includes local paths and removable media. The best driver found will be installed.
Search removable media (floppy, CD-ROM...)
Include this location in the search:
D:\MEC-COM-M042\Driver\Win_XP\Win_XP 32bit\
Browse
Don't search. I will choose the driver to install.
Choose this option to select the device driver from a list. Windows does not guarantee that the driver you choose will be the best match for your hardware.
< Back
Next >
Cancel

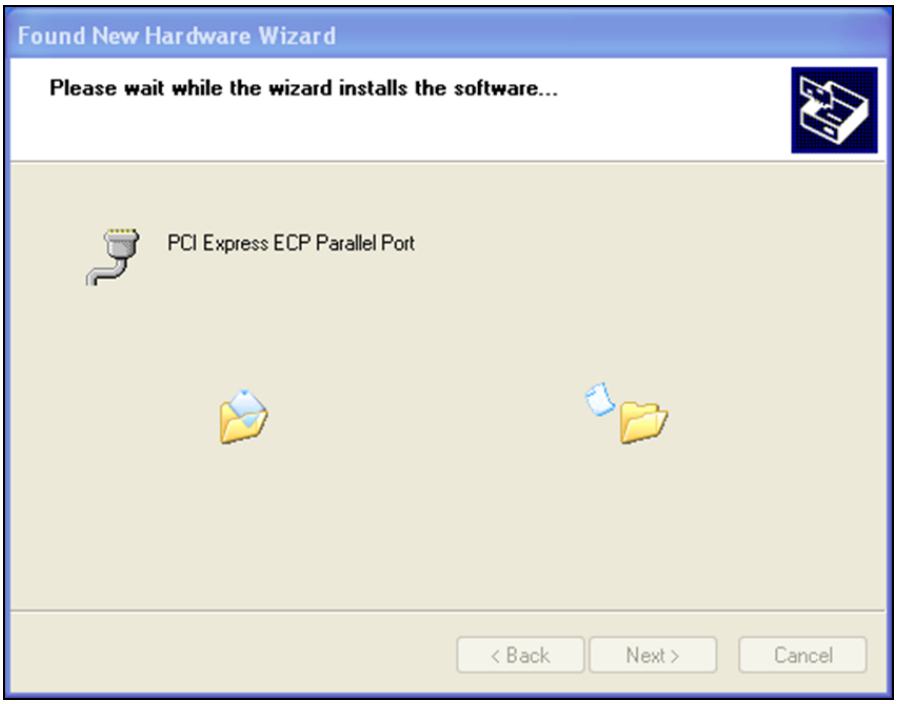
Make sure you select the correct driver.

Step 7 Disregard logo testing (Parallel Port)

1. Before installation is completed, logo testing window would pop out. Disregard this information and continue installation.
2. Click “Continue Anyway”

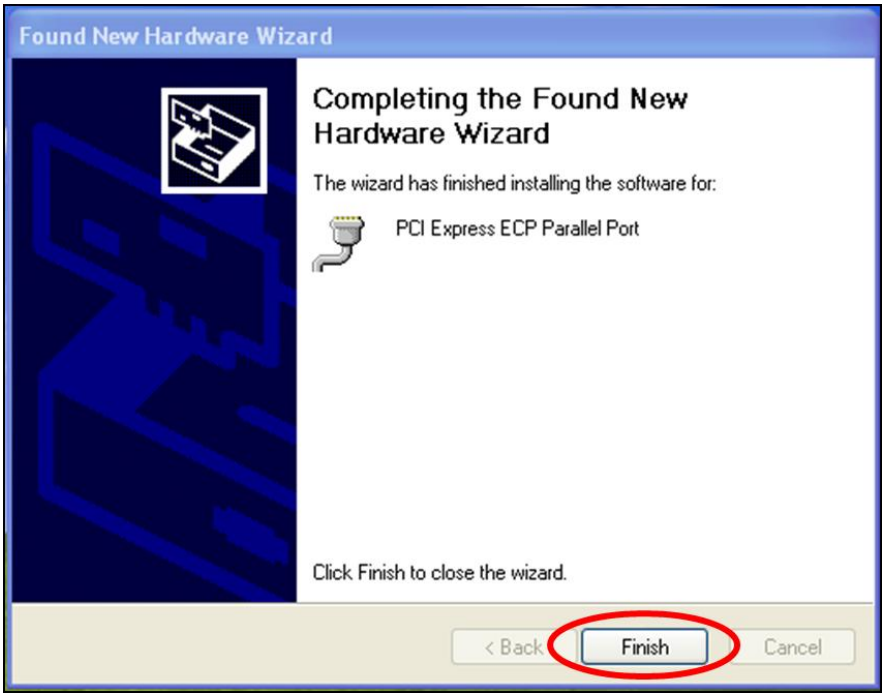

Hardware Installation
The software you are installing for this hardware:
PCI Express ECP Parallel Port
has not passed Windows Logo testing to verify its compatibility with Windows XP. (Tell me why this testing is important.)
Continuing your installation of this software may impair or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the hardware vendor for software that has passed Windows Logo testing.
Continue Anyway
STOP Installation

Step 8 Installation in progress (Parallel Port)



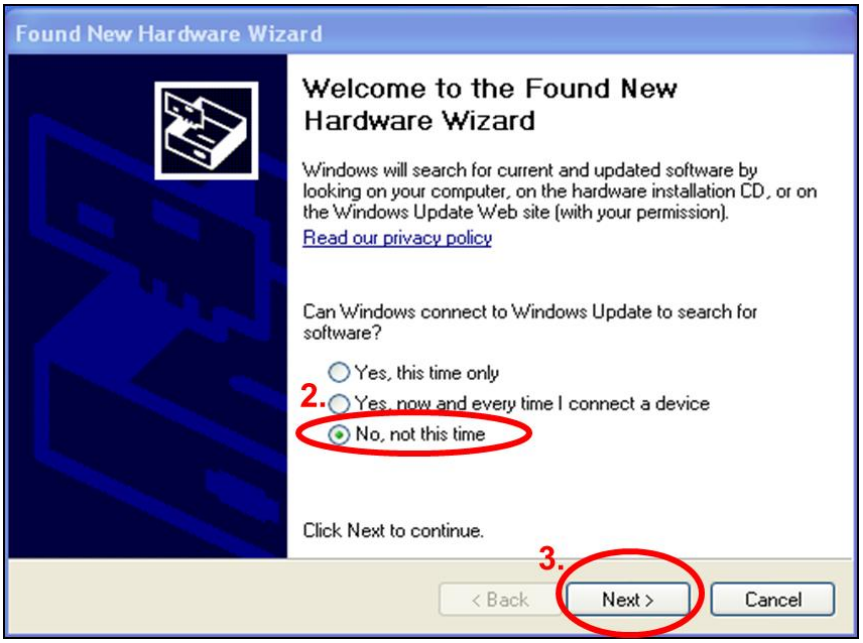
Step 9 Driver installation completed (Parallel Port)

Parallel port driver installation is completed, click “Finish”


Found New Hardware Wizard
Completing the Found New Hardware Wizard
The wizard has finished installing the software for:
PCI Express ECP Parallel Port
Click Finish to close the wizard.
< Back
Finish
Cancel

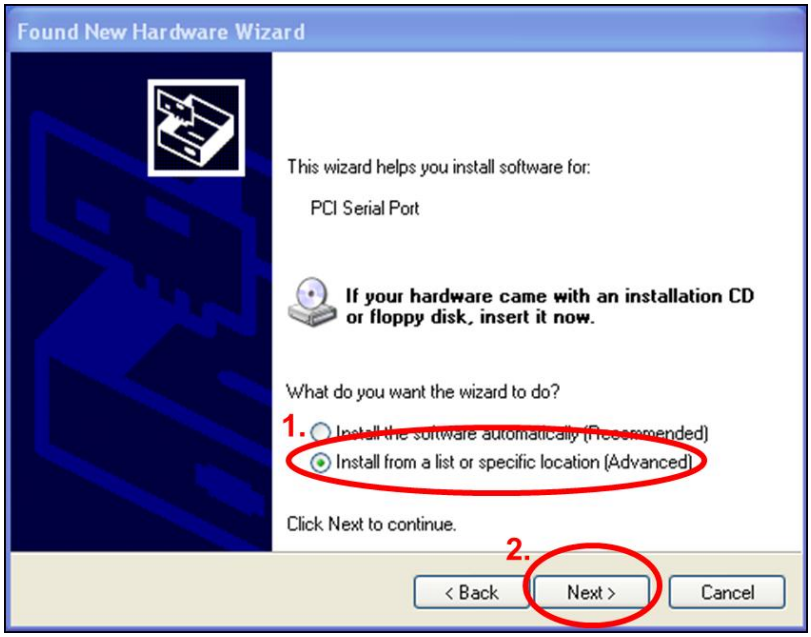
Step 10 Windows automatically detects the new device (Serial Port)

1. Another hardware wizard would start automatically after completing the parallel driver installation.
2. Select “No, not this time”
3. Click “Next”


Found New Hardware Wizard
Welcome to the Found New Hardware Wizard
Windows will search for current and updated software by looking on your computer, on the hardware installation CD, or on the Windows Update Web site (with your permission).
Read our privacy policy
Can Windows connect to Windows Update to search for software?
Yes, this time only
Yes, now and every time I connect a device
No, not this time
2.
Click Next to continue.
3.
< Back
Next >
Cancel

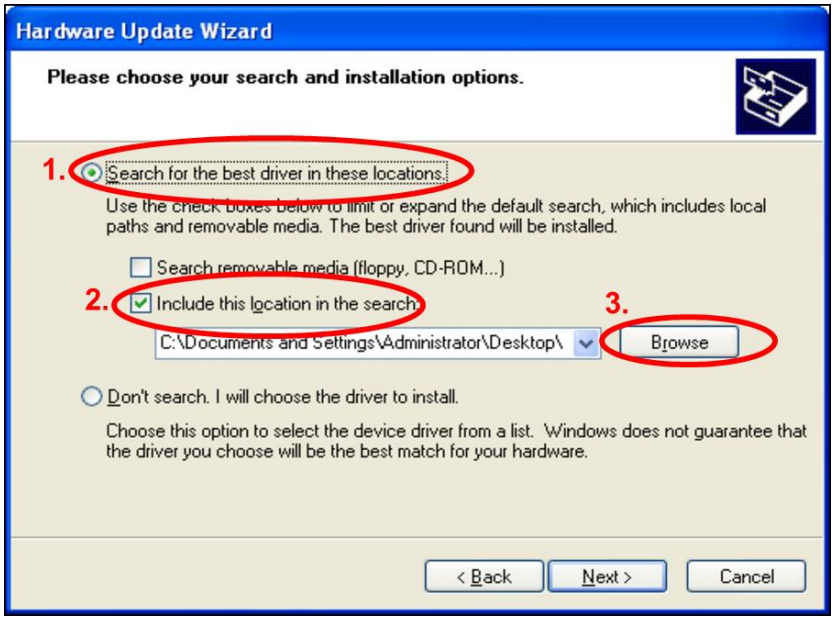
Step 11 Insert CD (Serial Port)

1. Select “Install from a list or specific location (Advanced)”
2. Click “Next”


Found New Hardware Wizard
This wizard helps you install software for:
PCI Serial Port
If your hardware came with an installation CD or floppy disk, insert it now.
What do you want the wizard to do?
1.
Install the software automatically (Recommended)
Install from a list or specific location (Advanced)
Click Next to continue.
2.
< Back
Next >
Cancel

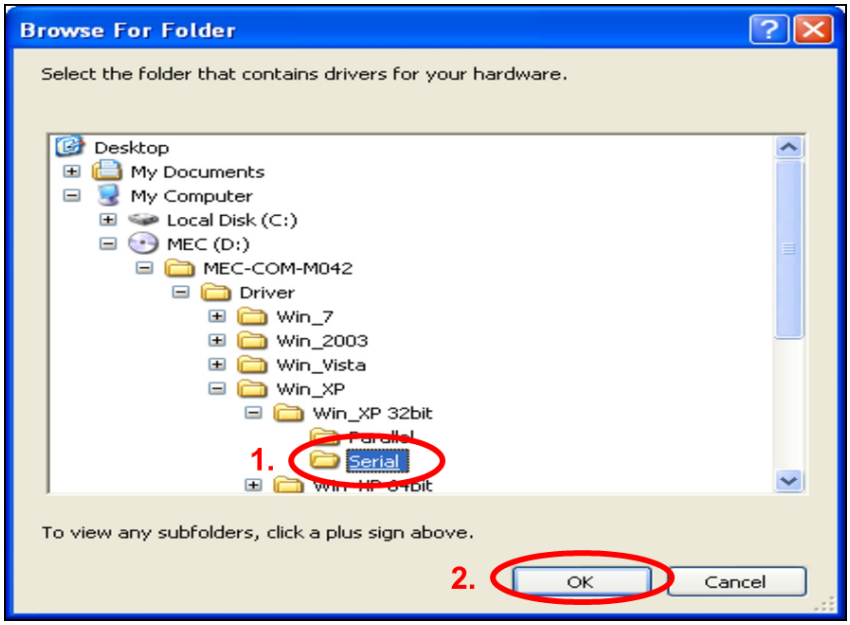
Step 12 Choose installation options (Serial port)

1. Select “Search for the best driver in these locations.”
2. Select “Include this location in the search:”
3. Click “Browse”


Hardware Update Wizard
Please choose your search and installation options.
1.
Search for the best driver in these locations.
Use the check boxes below to limit or expand the default search, which includes local paths and removable media. The best driver found will be installed.
Search removable media (floppy, CD-ROM...)
2.
Include this location in the search:
3.
C:\Documents and Settings\Administrator\Desktop\
Browse
Don't search. I will choose the driver to install.
Choose this option to select the device driver from a list. Windows does not guarantee that the driver you choose will be the best match for your hardware.
< Back
Next >
Cancel

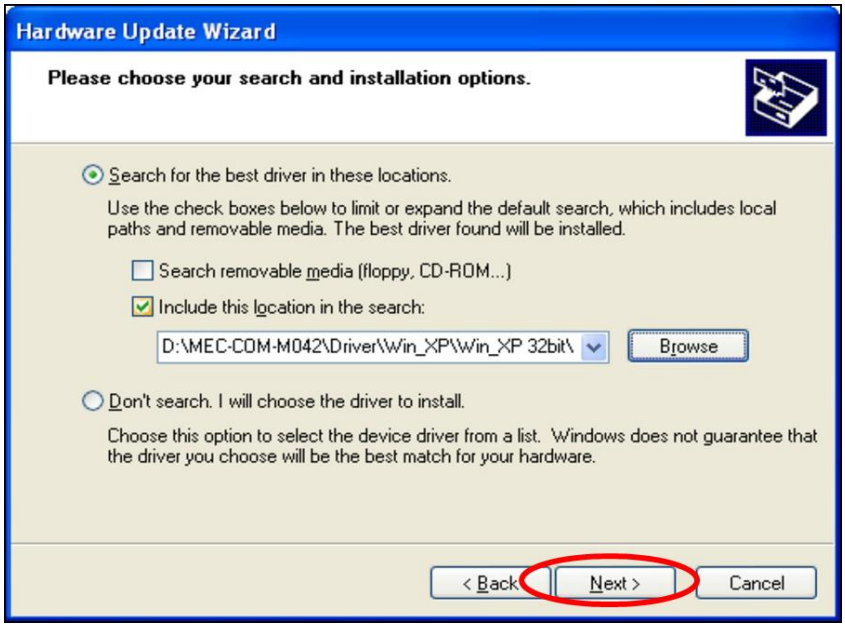
Step 13 Browse for folder (Ex.: XP) (Serial Port)

1. Select the driver by route: *My Computer -> CD or DVD drive -> MEC-COM-M042 -> Driver -> Win_XP -> Win_XP 32bit -> Serial*
2. Click “OK”



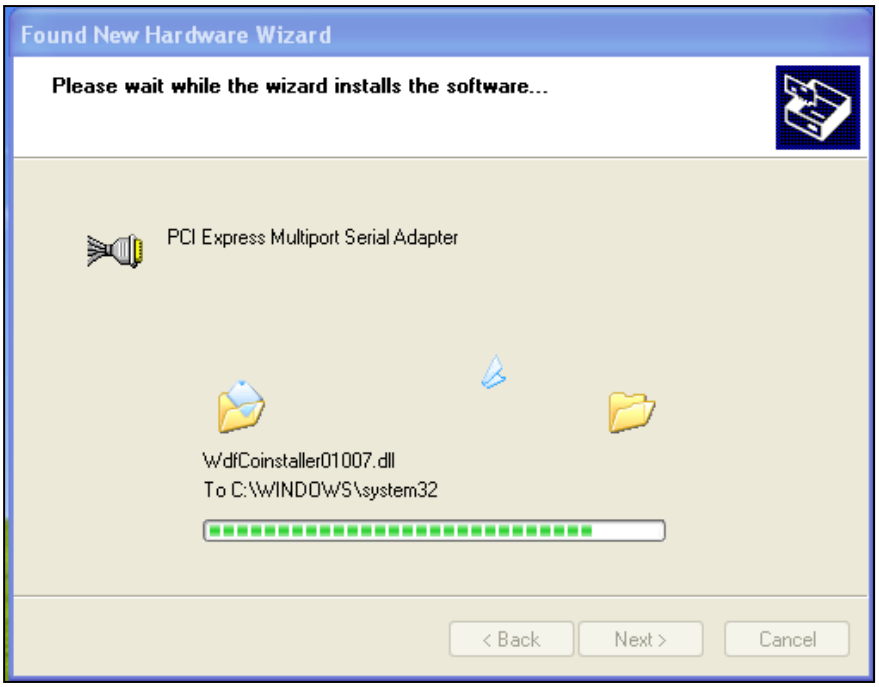
Step 14 Confirm driver folder (Serial Port)

Click “Next”


Hardware Update Wizard
Please choose your search and installation options.
Search for the best driver in these locations.
Use the check boxes below to limit or expand the default search, which includes local paths and removable media. The best driver found will be installed.
Search removable media (floppy, CD-ROM...)
Include this location in the search:
D:\MEC-COM-M042\Driver\Win_XP\Win_XP 32bit\
Browse
Don't search. I will choose the driver to install.
Choose this option to select the device driver from a list. Windows does not guarantee that the driver you choose will be the best match for your hardware.
< Back
Next >
Cancel

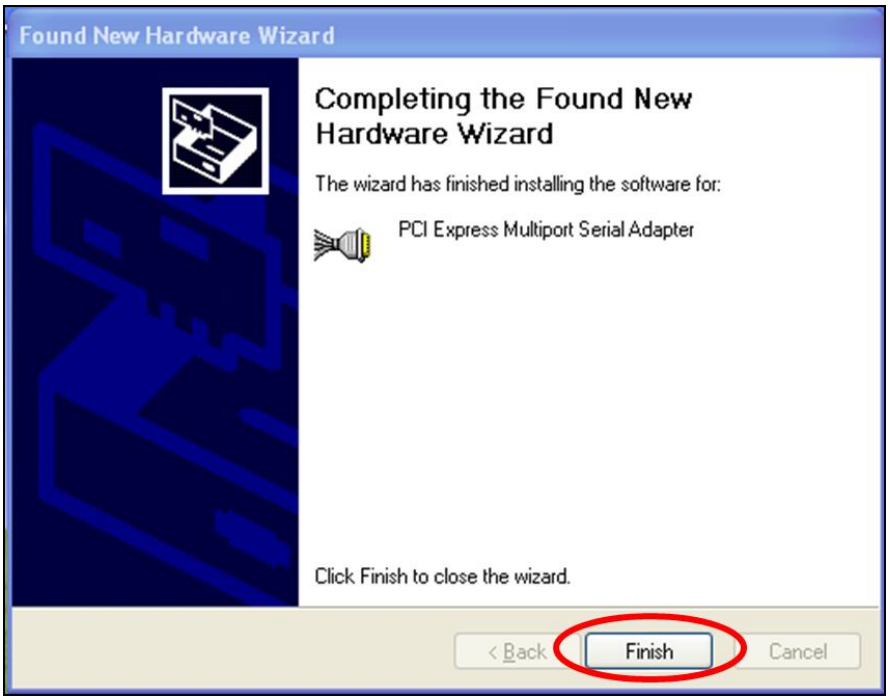
Make sure you select the correct driver.

Step 15 Installation in progress (Serial Port)



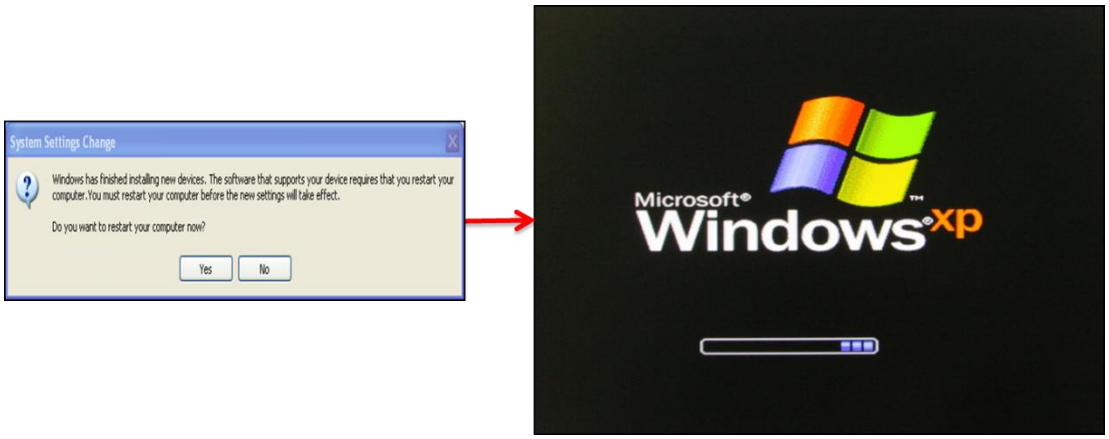
Step 16 Driver installation completed (Serial Port)

Serial port driver installation is completed, click “Finish”


Found New Hardware Wizard
Completing the Found New Hardware Wizard
The wizard has finished installing the software for:
PCI Express Multiport Serial Adapter
Click Finish to close the wizard.
< Back
Finish
Cancel

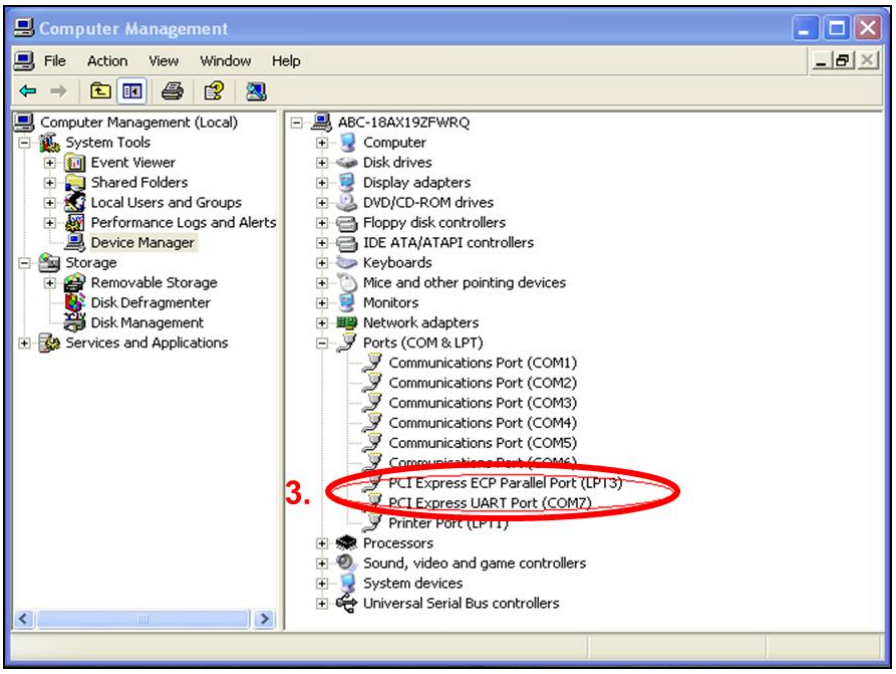
Step 17 Restart Windows

After installation is completed, click “Yes” to restart PC


System Settings Change
Windows has finished installing new devices. The software that supports your device requires that you restart your computer. You must restart your computer before the new settings will take effect.
Do you want to restart your computer now?
Yes
No
Microsoft
Windows xp

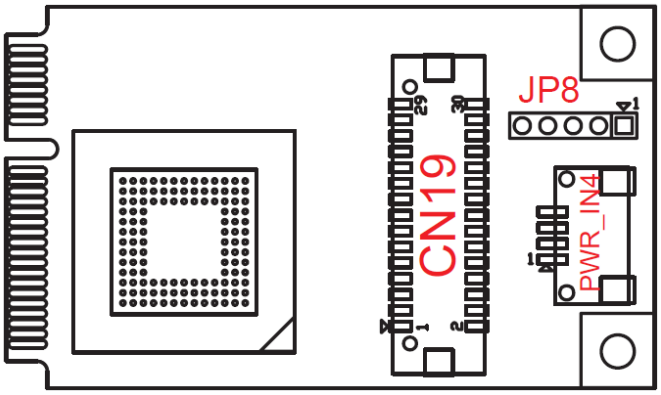
Step 18 Confirm if driver is installed

1. Start “Computer Management” program
2. Go to the route: *My Computer → Manage → Device Manager → Ports (COM & LPT)*
3. You would find ports: ECP Parallel Port (parallel port) and UART Port (serial port)
4. Device is ready to be used



Appendix

❑ Pin Assignments



Board Side Pin Assignments

Wire to Board Connector (CN19)

Pin	Description	Pin	Description
1	Strobe	2	Data 0
3	Data 1	4	Data 2
5	Data 3	6	Data 4
7	Data 5	8	Data 6
9	Data 7	10	Acknowledge
11	Busy	12	Paper End
13	Select Status	14	Auto Line Feed
15	Error	16	Initiate Printer
17	Select Printer	18	GND
19	GND	20	GND

DB9 Male Connector With Power Select (JP8)

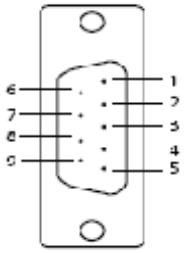
DB9 Male Connector	JP8
Pin 9 = +5V	Short 1-2
Pin 9 = +12V	Short 2-3 or 3-4
Pin 9 = RI	Short 4-5（Default）

Power Input Connector (PWR_IN4)

Pin	Description
1	+5V
2	GND
3	GND

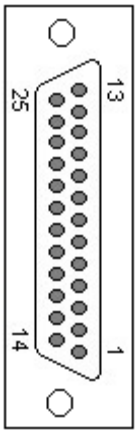
Device Side Pin Assignments

RS232 Port DB9 Male Connector



Pin	Description
1	DCD
2	RxD
3	TxD
4	DTR
5	GND
6	DSR
7	RTS
8	CTS
9	RI

LPT Port DB25 Female Connector



Pin	Description	Pin	Description
1	Strobe	14	Auto Line Feed
2	Data 0	15	Error
3	Data 1	16	Initiate Printer
4	Data 2	17	Select Printer
5	Data 3	18	GND
6	Data 4	19	GND
7	Data 5	20	GND
8	Data 6	21	GND
9	Data 7	22	GND
10	Acknowledge	23	GND
11	Busy	24	GND
12	Paper End	25	GND
13	Select Status		

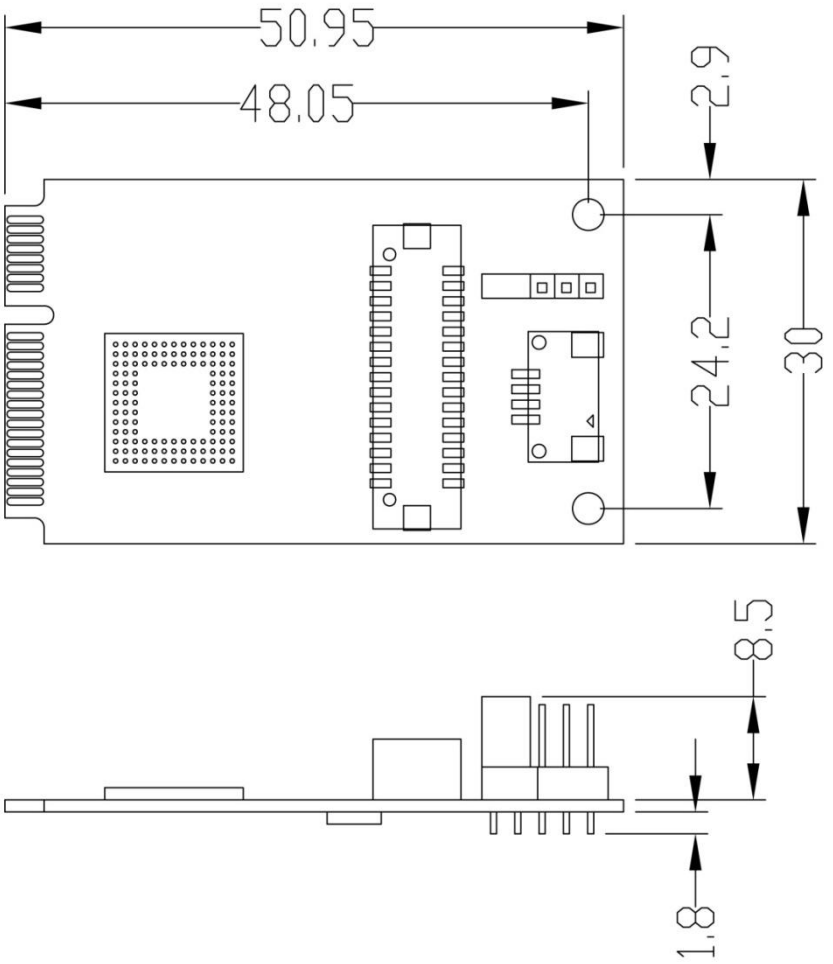
❑ Technical Reference

MEC-COM-M042 Specifications

General	
PCI-Express Revision	PCI-Express Base Specification Rev 1.1
PCI-Express Electromechanical Revision	PCI-Express Mini Card Electromechanical Rev. 1.1
Hardware	
Controllers	OXPCIe952 (16C550C compatible)
Bus	Single-Lane (x1) PCI-Express with throughput up to 2.5Gbps
Interface (Connector)	
RS-232	1 (DB9 male)
LPT	1 (DB25 male)
Serial Line Protection	
ESD Protection	15 KV on board
Serial Port Power	
Voltage Select	5V or 12V
Parallel Interface	
Parallel Standards	IEEE 1284 compliant SPP / EPP / ECP
Performance	
Baud Rate	Asynchronous baud rates up to 921.6 Kbps
Serial Communication Parameters	
Data Bits	5, 6, 7, 8
Stop Bits	1, 1.5, 2
Parity	No Parity bit
	Odd Parity bit
	Even Parity bit
	Parity bit forced to 1
	Parity bit forced to 0
Flow Control	RTS/CTS, XON/XOFF
Serial Signals	
RS-232	TXD, RXD, RTS, CTS, DTR, DSR, DCD, GND
Parallel Signals	
SPP / EPP / ECP	STROBE, DATA0~DATA7, ACK, BUSY, PE, SEL, AUTOF, ERROR, INIT, SELIN, GND
Driver Support	
Operating Systems	Win 2003, Win XP, Win Vista, Win 7
Power Requirement	
Power Consumption	85mA@3.3V
Dimensions	
Width x Length (mm)	30.00 x 50.95

Environmental Limits	
Operating Temperature	-20°C ~ 70°C
Storage Temperature	-20°C ~ 85°C
Humidity	5% ~ 95%
Regulatory Approvals	
EMC	CE, FCC
EMI	EN 55022, EN61000-3-2, EN61000-3-3, FCC Part 15 Subpart B Class B
EMS	En 55024, IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6, IEC 61000-4-8, IEC 61000-4-11
Reliability	
MTBF	1,224,994 hr
Warranty	3 years

MEC-COM-M042 Dimensions



❑ Product Warranty Statement

Cervoz products are warranted to be free from manufacturing defects in materials and workmanship starting from the date of delivery. The actual warranty period of Cervoz products vary with product categories. Complete details can be found here:
http://www.cervoz.com/support/warranty.php
During the warranty period, we shall, at our option, either repair or replace any product that proves to be defective under normal operation.

Defects, malfunctions, or failures of the warranted product caused by damage resulting from natural disasters (such as by lightening, flood, earthquake, etc.), environmental and atmospheric disturbances, other external forces such as power line disturbances, plugging the board in under power, or incorrect cabling, and damage caused by misuse, abuse, and unauthorized alteration or repair, and the product in question is either software, or an expendable item (such as a fuse, battery, etc.), are not warranted.

RMA Instruction

- Customers must fill in Cervoz Return Merchandise Authorization (RMA) Request Form and obtain a RMA number prior to returning a defective product to Cervoz for service.
- Customers must collect all the information about the problems encountered and note anything abnormal and describe the problems on the “Cervoz Service Form” for the RMA number application process.
- Charges may be incurred for certain repairs. Cervoz will charge for repairs to products whose warranty period has expired. Cervoz will also charge for repairs to products if the damage resulted from acts of God, environmental or atmospheric disturbances, or other external forces through misuse, abuse, or unauthorized alteration or repair. If charges will be incurred for a repair, Cervoz lists all charges, and will wait for customer’s approval before performing the repair.
- Customers agree to insure the product or assume the risk of loss or damage during transit, to prepay shipping charges, and to use the original shipping container or equivalent.
- Customers can send back faulty products with or without accessories (manuals, cable, etc.) and any components from the card. If the components were suspected as part of the problems, please note clearly. Otherwise, Cervoz is not responsible for the devices/parts.
- Repaired items will be shipped along with a "Repair Report" detailing the findings and actions taken.

Limitation of Liability

Cervoz’ liability arising out of the manufacture, sale, or supplying of the product and its use, whether based on warranty, contract, negligence, product liability, or otherwise, shall not exceed the original selling price of the product. The remedies provided herein are the customer’s sole and exclusive remedies. In no event shall Cervoz be liable for direct, indirect, special or consequential damages whether based on contract of any other legal theory.